Appliance Documentation

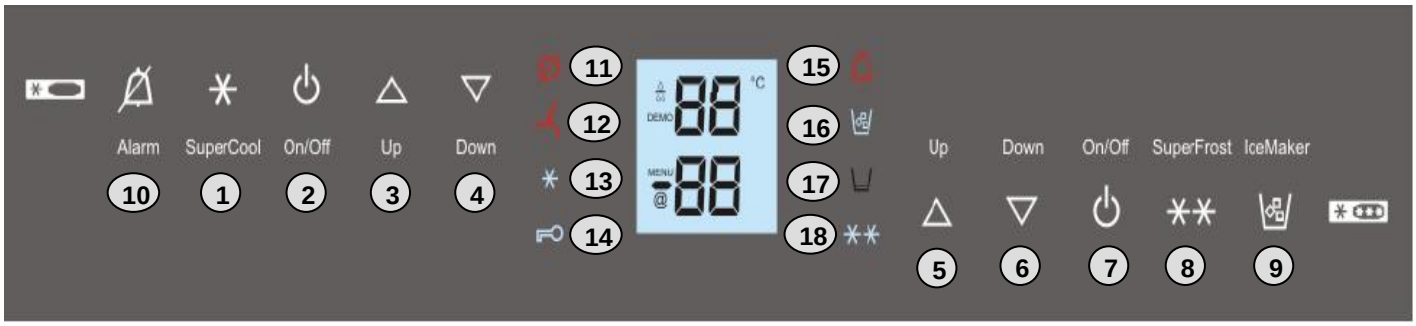
ECN 6156 from Index 20

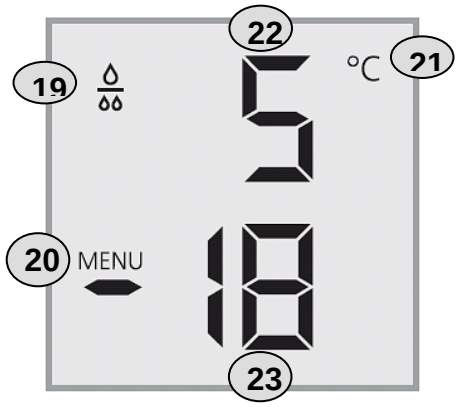
NoFrost fridge-freezer combination 91cm wide
(refrigerator compartment with LargeDoor – freezer compartment with pull-out drawers)

Contents

1.0 Operating and control elements ... 3
2.0 Functions at a glance ... 4
3.0 Description of the appliance ... 5
3.1 Sensor positions, schematic diagram ... 6
3.2 Plinth design, schematic diagram ... 6
4.0 Main components and their functions ... 7
4.1 Electrical components and functions ... 7
4.1.1 General ... 7
4.1.2 Refrigerator compartment ... 7
4.1.3 Freezer compartment ... 9
4.2 Refrigeration components and functions ... 11
4.2.1 General ... 11
4.2.2 Refrigerator compartment ... 11
4.2.3 Freezer compartment ... 11
5.0 Assembly instructions / replacement of parts ... 12
5.1 General ... 12
5.1.1 Control panel electronics ... 12
5.1.2 Power electronics ... 13
5.1.3 Condenser fan ... 15
5.2 Refrigerator compartment ... 16
5.2.1 Replacing door ... 16
5.2.2 Hinge replacement ... 17
5.2.3 Soft-close mechanism replacement ... 18
5.2.4 Heating of hinge housing ... 18
5.2.5 Dismantling the refrigerator compartment evaporator cover ... 19
5.2.6 Replace mount for water filter ... 19
5.2.7 Refrigerator compartment air sensor ... 21
5.2.8 Refrigerator compartment evaporator sensor ... 21
5.2.9 Refrigerator compartment fan ... 22
5.2.10 Fitting the cover ... 22
5.3 Freezer compartment ... 23
5.3.1 Dismantling the freezer compartment drawers ... 23
5.3.2 Freezer compartment evaporator cover ... 24
5.3.3 Freezer compartment air sensor ... 25
5.3.4 Temperature limiter ... 25
5.3.5 Evaporator sensor, freezer compartment ... 26
5.3.6 Freezer compartment fan ... 27
5.3.7 Freezer compartment reed contact ... 28
5.3.8 Fitting the cover ... 29
6.0 Technical data ... 30
6.1 General ... 30
6.2 Refrigerator compartment ... 30
6.3 Freezer compartment ... 30
7.0 Customer menu ... 31
8.0 Service menu ... 32
8.1 Manual defrosting ... 32
8.2 Demo mode ... 33
8.3 Panel test ... 34
8.4 Sensor test (display of temperature) and door contact test ... 35
8.4.1 Refrigerator/freezer compartment ... 35
8.4.2 IceMaker ... 36
8.5 Service mode ... 37
8.5.1 Refrigerator/freezer compartment ... 37
8.5.2 IceMaker ... 38
8.5.3 Solenoid valve ... 39
9.0 Error codes ... 39

1.0 Operating and control elements





Control elements:

Refrigerator compartment			Freezer compartment		
1	**SuperCool**	SuperCool function	**5**	**Up**	**Setting button** temperature **higher**
2	**ON/OFF**	ON/OFF button for refrigerator compartment	**6**	**Down**	**Setting button** temperature **lower**
3	**Up**	**Setting button** temperature **higher**	**7**	**ON/OFF**	ON/OFF button for freezer compartment
4	**Down**	**Setting button** temperature **lower**	**8**	**SuperFrost**	SuperFrost function
			9	**IceMaker**	ON/OFF button for IceMaker
General					
10	**Alarm**	Alarm OFF button for audible alarm			

Control elements:

Front panel		MagicEye	
11	Power failure	**19**	Replace water filter
12	Clean dust filter (plinth)	**20**	Customer menu activated
13	SuperCool activated	**21**	Temperature display in °C
14	Child lock activated	**22**	Refrigerator compartment temperature
15	Alarm	**23**	Freezer compartment temperature
16	IceMaker switched ON		
17	Inactive		
18	SuperFrost activated		

2.0 Functions at a glance

Control:	Electronic	
Temperature display:	Refrigerator compartment: Freezer compartment:	Actual value Actual value
Temperature range:	Refrigerator compartment: Freezer compartment:	+2°C to +11°C -14°C to -28°C
Temperature alarm:	Refrigerator compartment: Freezer compartment:	Not present Visual, audible
Door alarm:	Refrigerator compartment: Freezer compartment:	Audible Audible
Fan:	Refrigerator compartment: Freezer compartment:	Present Present
Defrosting:	Refrigerator compartment: Freezer compartment:	Automatic Automatic
Interior lighting:	Refrigerator compartment: Freezer compartment:	Present Present
Service menu:	Present	
Compressor:	2x Standard	
Solenoid valve refrigeration circuit:	Not present	

3.0 Description of the appliance

The ECN is a fridge-freezer combination with a freely suspended rear wall evaporator in the refrigerator compartment and a NoFrost freezer compartment with IceMaker.

The temperature in the refrigerator compartment is controlled by an air sensor and an evaporator sensor.

The temperature in the freezer compartment is also controlled by an air sensor. The defrosting phases are initiated by way of the electronic control system, taking compressor running time and door openings into account.

The appliance has 2 compressors. Therefore the refrigerator compartment and freezer compartment have a separate refrigeration circuit and can be controlled separately.

3.1 Sensor positions, schematic diagram

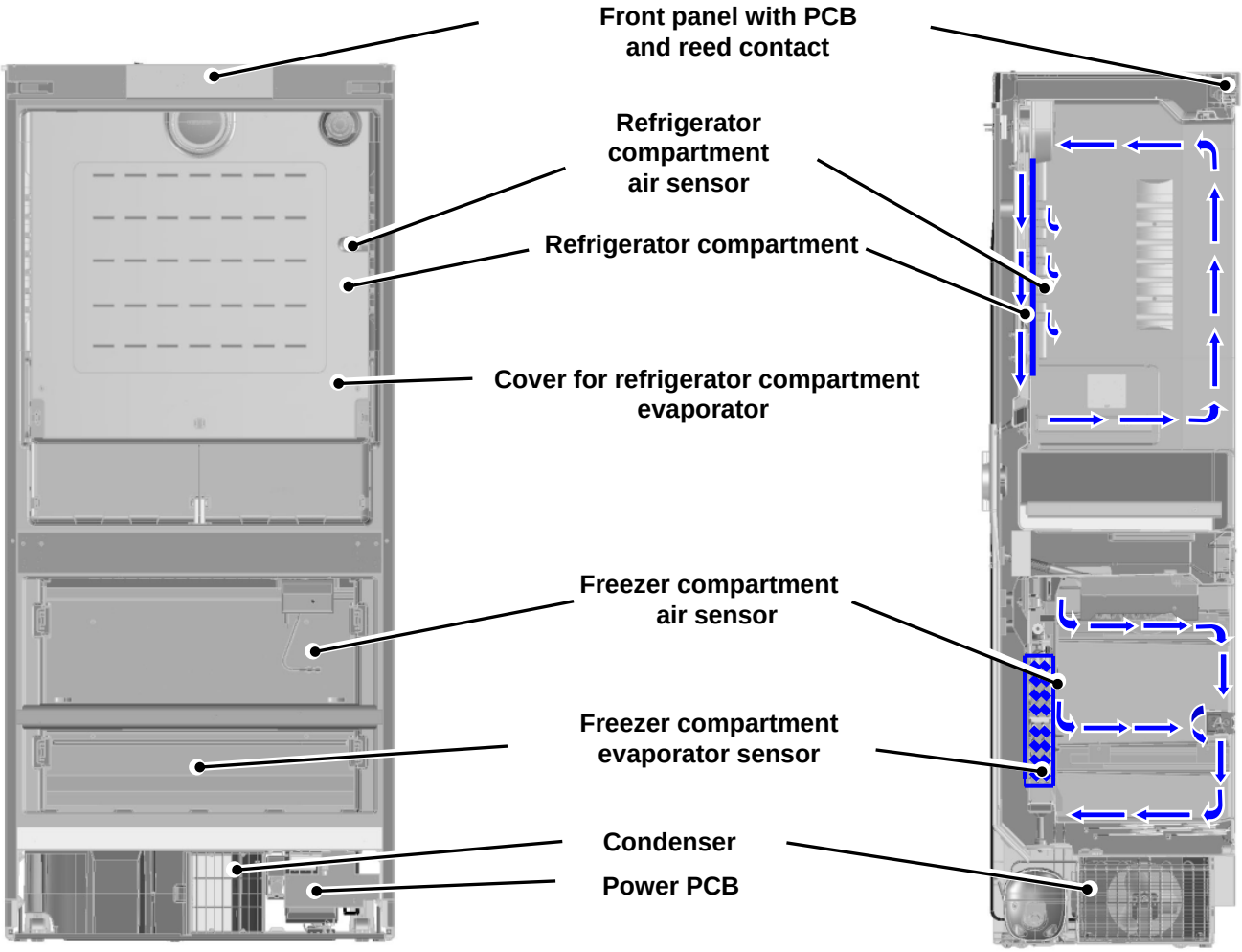
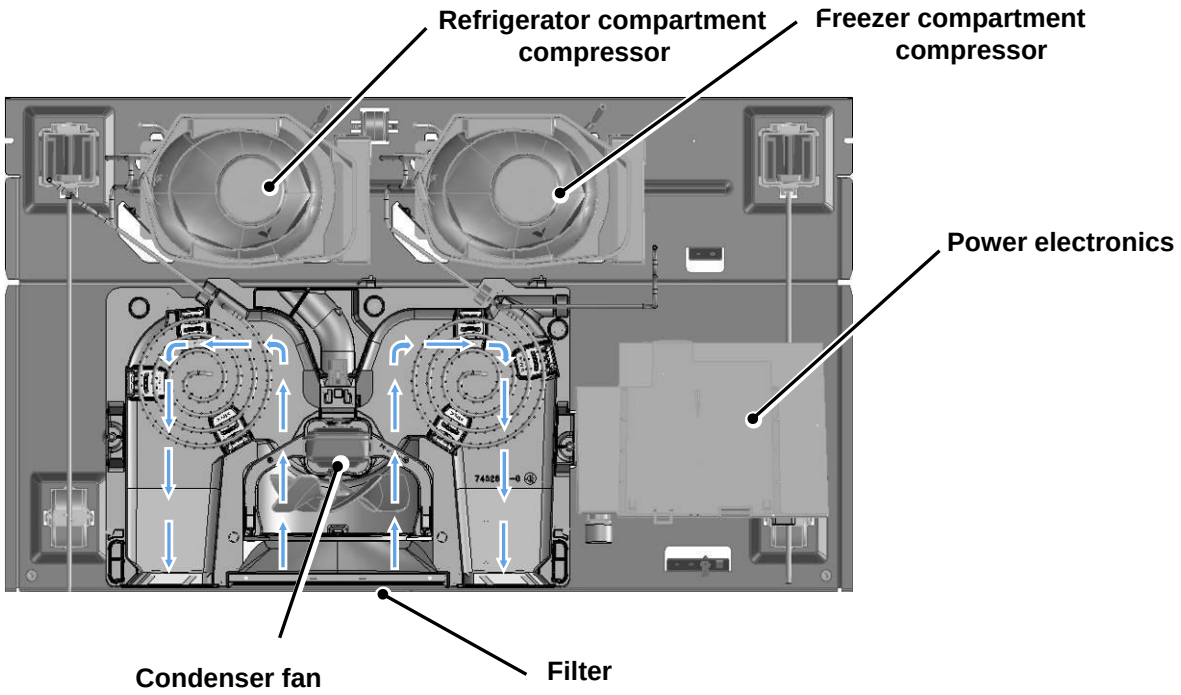


Fig. 3.1 / 1

Fig. 3.1/ 2

3.2 Plinth design, schematic diagram



4.0 Main components and their functions

4.1 Electrical components and functions

4.1.1 General

Electronics	
Type:	Series 6 electronic control system
Components:	Control panel and power PCB
Compressor	
Type:	2 standard compressors
Function-refrigerator compartment:	ON: Refrigerator compartment evaporator sensor switch-on value. Note: On-delay time (8 minutes) must have elapsed. OFF: Refrigerator compartment air sensor switch-off value
Function-freezer compartment:	ON: Freezer compartment air sensor switch-on value Note: On-delay time (8 minutes) must have elapsed. OFF: Freezer compartment air sensor switch-off value
Condenser fan	
Position:	In the appliance plinth
Function:	ON: Refrigeration compartment compressor ON **or** Freezer compartment compressor ON OFF: Both compressors OFF

4.1.2 Refrigerator compartment

Electronics	
Setting range:	+2°C to +11°C
Display range:	0°C to +48°C (actual value display) Temperatures equal to and lower than +0°C are displayed as 0.
Functions	
SuperCool:	**SuperCool ON:** Refrigerator compartment sets itself to +2°C for 6 hours. **SuperCool OFF:** The refrigerator compartment sets itself to the set value.
Defrosting:	Automatic during compressor standstill phase.
Door alarm:	When: After the door has been open for 1 minute. Audible: 3 beeps.

Sensors

Refrigerator compartment air sensor:	Position:	In the vertical cover.
	Function:	- Switches the refrigerator compartment compressor OFF. - Generates the refrigerator compartment temperature display value.
Evaporator sensor:	Position:	In sensor holder on the back of the evaporator.
	Function:	- Switches the refrigerator compartment compressor ON. - Ends the defrosting phase.

Switch

Door switch:	Position:	In the front panel.
	Type:	Tube-type reed
	Contact type:	Make contact
	Function:	**Activation via:** Magnet on both doors, magnet is replaceable. **Switching signal when:** **Doors closed:** fan ON interior light OFF **Doors open:** fan OFF interior light ON door alarm ON after 60 seconds

Loads

Fan:	Position:	on the back of the evaporator cover.
	Function:	**ON:** - compressor ON **and** - freezer compartment door closed **and** - during commissioning compressor sensor switch-on value (+8°C) reached. **OFF:** - Compressor OFF
Refrigerator compartment interior light:	Position:	On the ceiling, on the right and left side of interior
	Function:	- Shines as soon as the door is opened. - Is switched OFF after door has been open for 15 minutes.
Heating for hinge housing:	Position:	Glued and foamed-in on the back of the two bottom hinge housings (left and right).
	Function:	Can be activated when condensate collects.

4.1.3 Freezer compartment

Electronics		
Setting range:	-14°C to -28°C	
Display range:	+0°C to -50°C (actual value display) values over +0°C are indicated on bar display.	
Functions		
Temperature alarm:	Alarm value:	4K warmer than set value.
	SuperFrost alarm value:	-10°C
	Delay:	20 minutes
	Visual:	Flashing temperature display.
	Audible:	4 beeps.
	During start-up:	The temperature display flashes until the switch-off value is reached, the audible alarm is switched OFF.
	(e.g. with a set value of 0°C, a temperature of +7°C must be present for at least 20 minutes, then a temperature alarm is raised.)	
	After the defrosting phase begins, the temperature alarm is suppressed for 1.5 hrs.	
Defrosting:	The defrosting phase is initiated: - During start-up after 6 hours cumulative compressor running time. - After a cumulative compressor running time of 15 to 24 hours maximum, depending on the number/duration of the door openings. As the defrosting phase begins, the compressor and fan are switched OFF and the defrost heater is switched ON. The defrost heater remains switched ON until such time as - the freezer compartment evaporator sensor has reached +5°C or - a max. defrosting time of 50 minutes has been reached. After the end of the heating phase, the compressor is switched on with a 5 minute delay. If the SuperFrost function is activated during the defrosting phase, this will not interrupt defrosting.	
Door alarm:	When:	After the door has been open for 1 minute.
	Audible:	3 beeps.
SuperFrost:	**SuperFrost ON:** Refrigerator compartment sets itself to -34°C for 30 hours. In the following 35 hours SuperFrost is ended automatically after the temperature falls 8K below the set value (at -18°C -> -26°C) or on expiry of the total period of 65 hours. **SuperFrost OFF:** The freezer compartment sets itself to the set value. **Attention:** If SuperFrost is actuated during a defrosting phase, the SuperFrost function is not performed before the defrosting phase has run.	

Sensors

Air sensor:

Position: On the front of the evaporator cover

Function:
- Switches the freezer compartment compressor ON.
- Switches the freezer compartment compressor OFF.
- Freezer compartment air sensor and freezer compartment evaporator sensor switch the freezer compartment fan ON.
- Generates the freezer compartment temperature display value.

Evaporator sensor:

Position: Slipped in, in the lower area of the lamellar evaporator.

Function:
- Freezer compartment evaporator sensor and freezer compartment air sensor switch the freezer compartment fan ON.
- Ends the defrosting phase.

Switch

Door switch:

Position: On the back of the freezer compartment evaporator cover.

Type: 2x reed PCB

Contact type: Make contact

Function: **Activation via:**
Magnet in back right corner of the drawers.
Magnet is replaceable.

Switching signal when:

door closed:	fan	ON
	interior light	OFF
door open:	fan	OFF
	interior light	ON
	door alarm	ON after 60 seconds

Loads

Fan:

Position: Top centre of freezer compartment.

Function: **ON:**
- compressor ON **and**
- freezer compartment door closed **and**
- evaporator sensor switch-on value reached.

Switch-on value evaporator sensor:
a) during start-up / after defrosting phase: -20°C.
b) During normal operation 2K colder than freezer compartment air sensor.

OFF: - Compressor OFF

Defrost heater:

Position: Clipped into lamellar evaporator.

Function: Defrosts the evaporator.
For activation, see: **Functions Defrosting**

Interior light:

Position: On the ceiling and in the cross ridge.

Function:
- Shines as soon as the door is opened.
- Is switched OFF after door has been open for 15 minutes.

4.2 Refrigeration components and functions

4.2.1 General

Compressor	
Compressor:	2 x Standard
Refrigerant:	R600a

4.2.2 Refrigerator compartment

Evaporator	
Type:	Plate evaporator
Type of installation:	Suspended freely.
Injection point:	At the top left

4.2.3 Freezer compartment

Evaporator	
Type:	Lamellar evaporator
Type of installation:	Freestanding between air duct panel and compartment liner.
Injection point:	Top centre

5.0 Assembly instructions / replacement of parts

5.1 General

5.1.1 Control panel electronics

Covers: - Disengage the covers at the marked locations.

Fig. 5.1.1 / 1

Front panel: - Unclip the front panel at the left and right.

Fig. 5.1.1 / 2

PCB carrier: - Disengage and remove bus connector.

Note: Front panel can only be replaced as a whole, PCB and reed contact are not available separately!

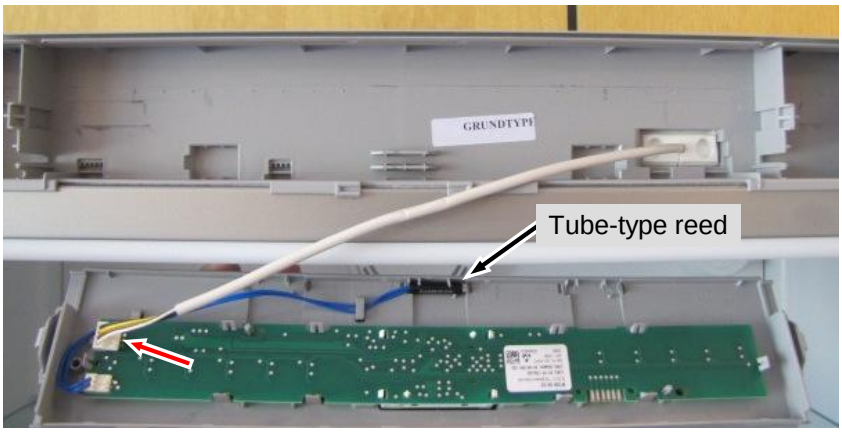


Fig. 5.1.1/ 3

5.1.2 Power electronics

Aggregate housing:
- Remove ventilation grille.
- Unclip cover at two points on the bottom and remove fastening screw.
- Then hinge up the cover as far as it will go until the lug can be unclipped at the top.

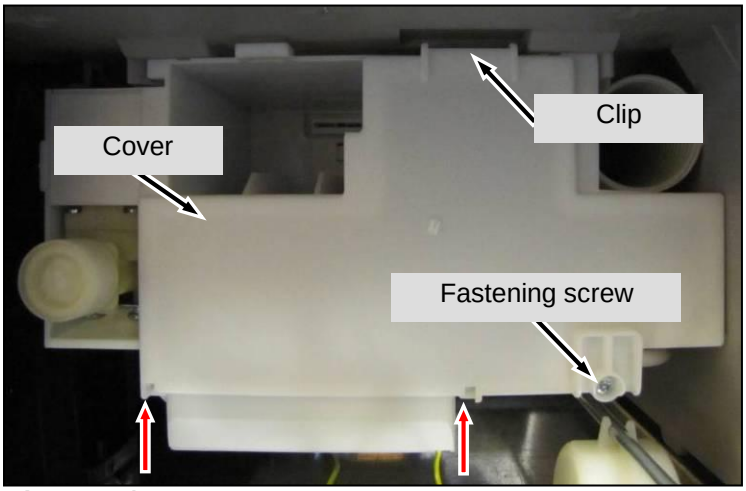


Fig. 5.1.2 / 1

Cable mounting bracket:
- Unclip the cable mounting bracket at the marked location and unscrew the strain relief.
- Detach front PCB edge connectors.

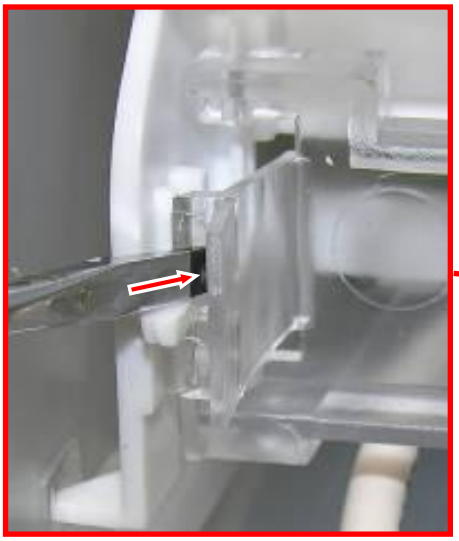


Fig. 5.1.2/ 2

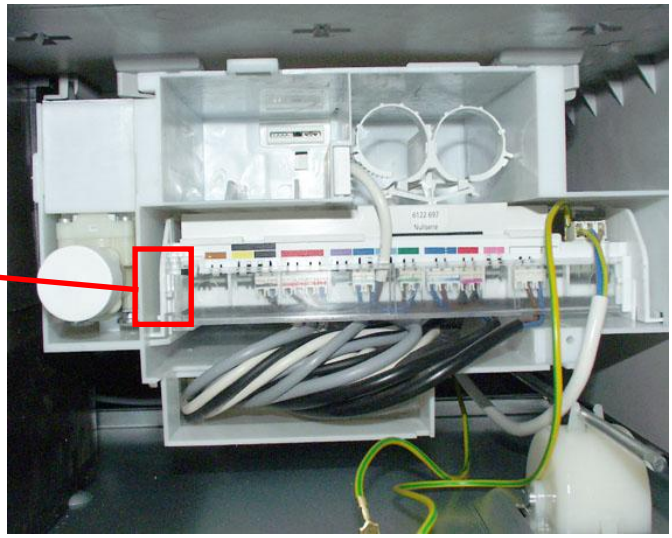


Fig. 5.1.2/ 3

PCB carrier:

- Unclip the PCB carrier at the left and right and draw it out of the unit carrier.
- Detach feed line and rear PCB edge connectors (sensors, reed, contact bus line).

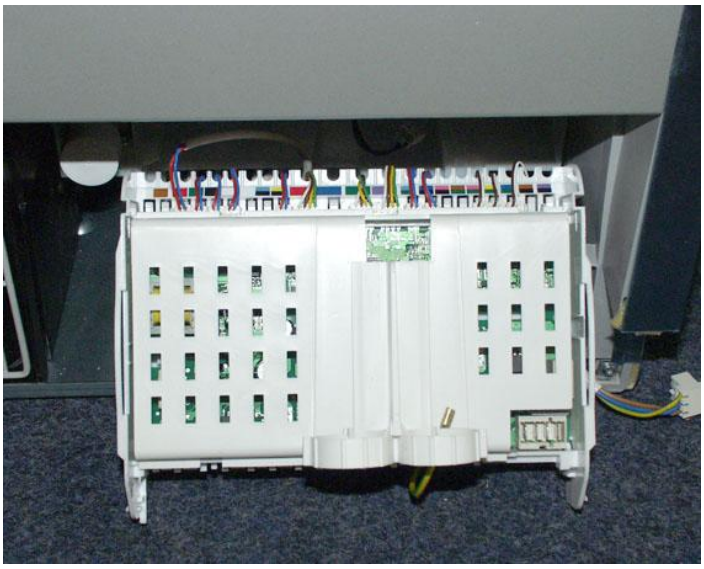


Fig. 5.1.2/ 4

Electronic power module:

- Disengage the upper part of the plug-in unit at the marked locking hooks and remove it.
- Disengage the PCB at the marked locations.

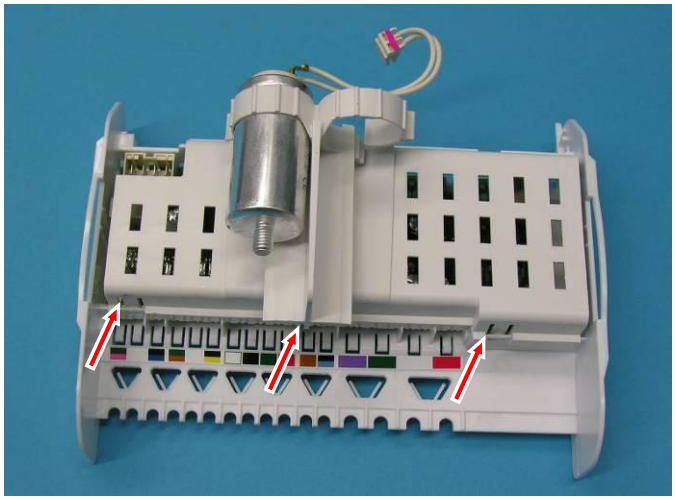


Fig. 5.1.2/ 5

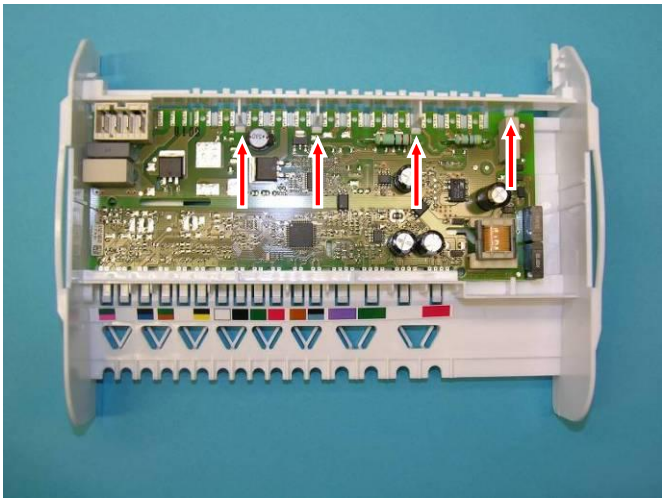


Fig. 5.1.2/ 6

5.1.3 Condenser fan

Dismantling:

- Remove the ventilation grille and dust filter.
- Remove marked retaining lugs at the same time and pull out fan mount and motor from the intake funnel.
- Electrical connection is by means of a rigid plug-in connector.

Fig. 5.1.3/ 1

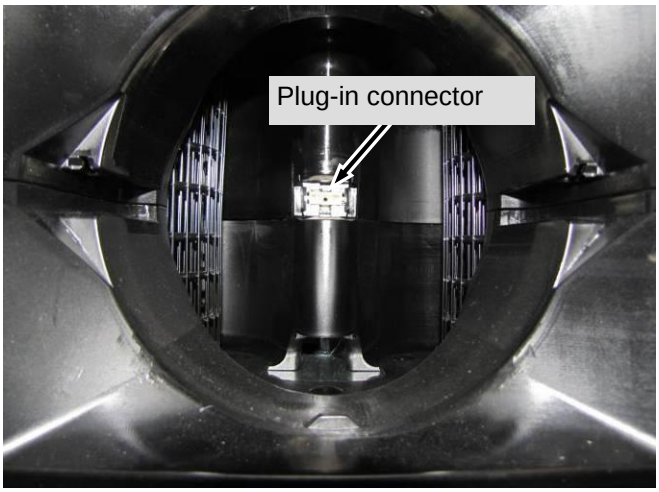


Fig. 5.1.3/ 2

Fan mount:

- Remove blades from axle (possibly first remove casing).
- Unclip the fan motor from the mount.

Fig. 5.1.3/ 3

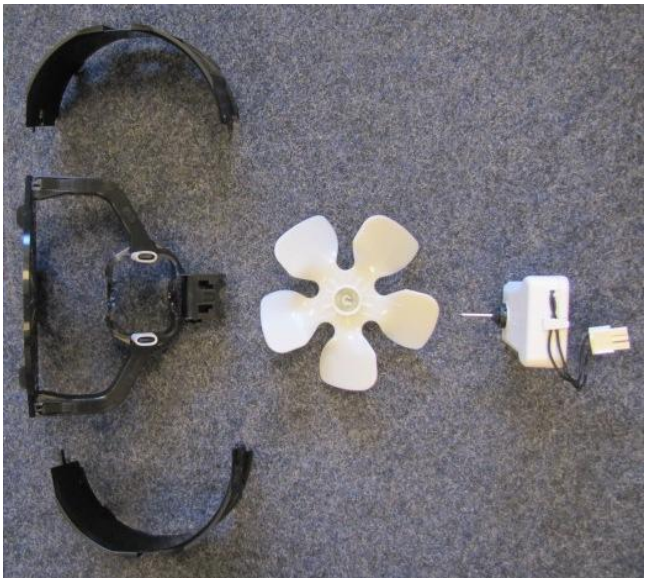


Fig. 5.1.3/ 4

5.2 Refrigerator compartment

5.2.1 Replacing door

Disassembling the door Remove fastening screws and take off door.

Note: When closed, the door is held to a certain extent by the effect of the magnet door seal. Support the door anyway for safety sake or hold while removing the screws.

Fig. 5.2.1/ 1

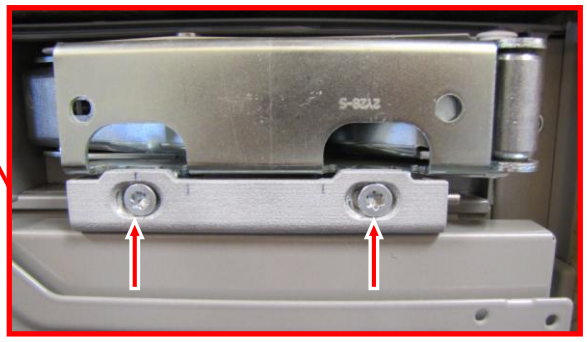


Fig. 5.2.1/ 2

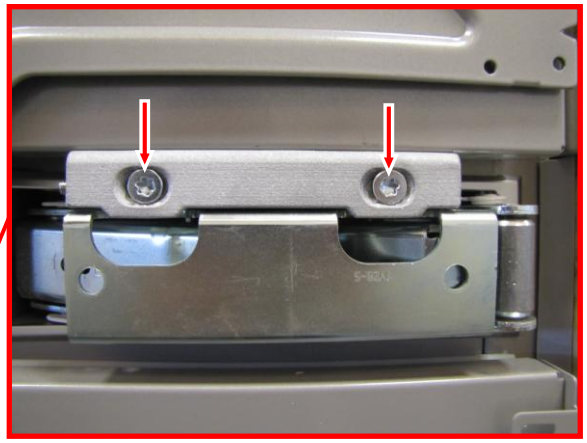


Fig. 5.2.1/ 3

Adjust door:

- Loosen fastening screws a little.
- With the help of the set screw on the respective mounting bracket the door can be adjusted in relation to the hinge and thus the appliance body.
- Retighten the fastening screws afterwards.

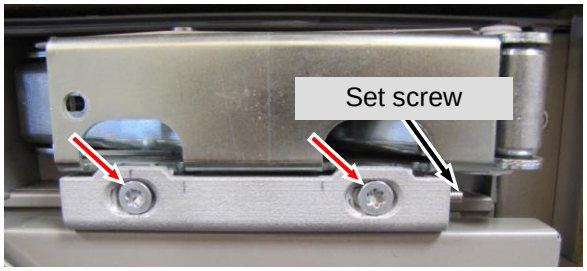


Fig. 5.2.1/ 4

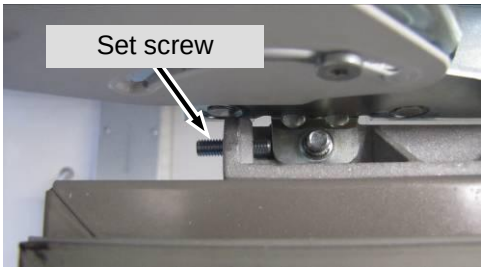


Fig. 5.2.1/ 5

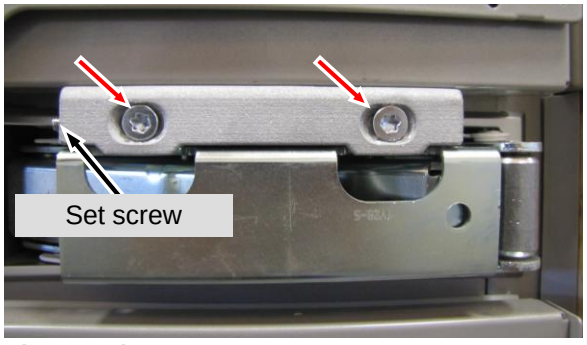


Fig. 5.2.1/ 6

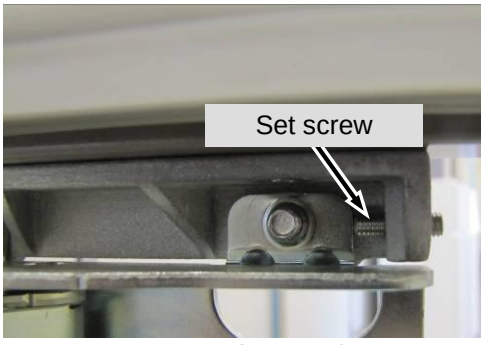


Fig. 5.2.1/ 7

5.2.2 Hinge replacement

Hinge: Remove fastening screws and hinge. On the outside, the hinge is hooked into the housing with two lugs.
Note: By inserting a safety bolt, the hinge can be protected against snapping shut.

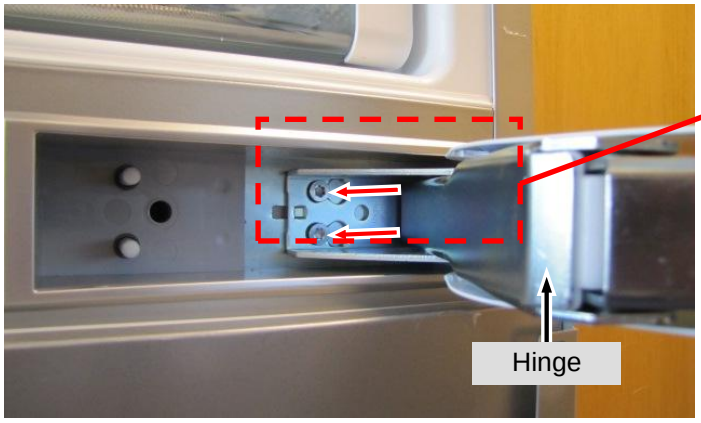


Fig. 5.2.2/ 1

Fig. 5.2.2 / 2

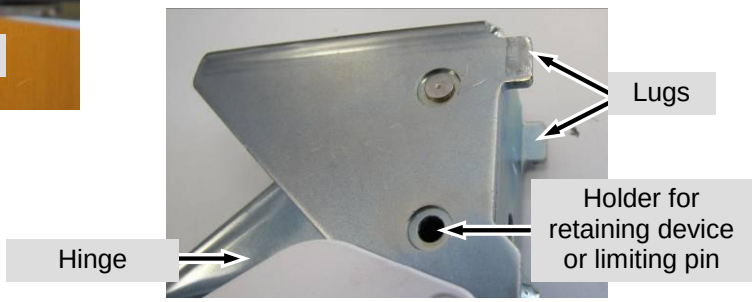


Fig. 5.2.2/ 3

Tighten hinge: To achieve the correct closing force, once the new hinge and door are mounted, the new hinge must be tightened.
Note: Turn tensioning screw to stop – not just until screw head is in I-position.

Fig. 5.2.2/ 4

Fig. 5.2.2/ 5

Fig. 5.2.2/ 6

5.2.3 Soft-close mechanism replacement

To prevent the door from slamming shut, two soft-close mechanisms are installed in each hinge housing. They are inserted in the recesses and can be pulled out again.

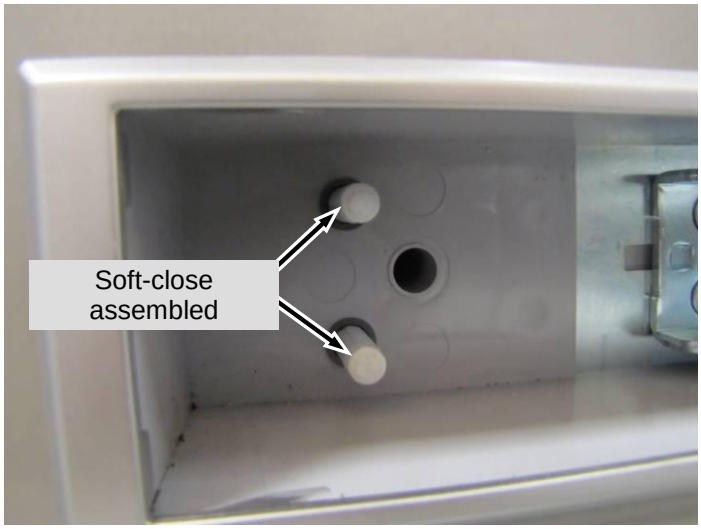


Fig. 5.2.3 / 1

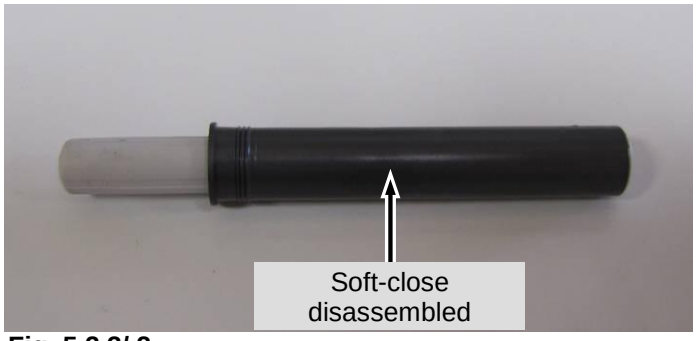


Fig. 5.2.3/ 2

5.2.4 Heating of hinge housing

To prevent condensation forming on the inside of the lower hinge housings, they are heated using a foamed-in heating system. Heating activation is described in chapter 7.0.

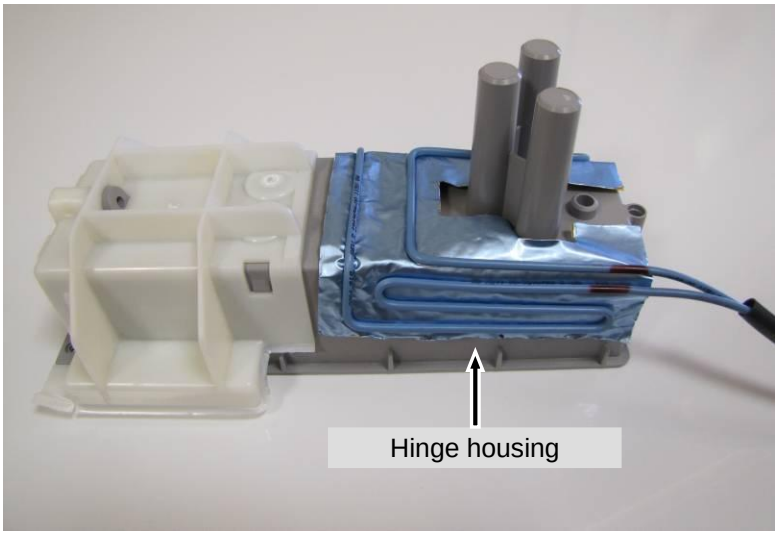


Fig. 5.2.6 / 1

5.2.5 Dismantling the refrigerator compartment evaporator cover

Refrigerator compartment evaporator cover:

- Remove 7 screws, release bayonet lock, screw out water filter.
- First pull cover down a little and then swivel up.
- Unplug fan cable, remove air sensor from mount and remove cover.

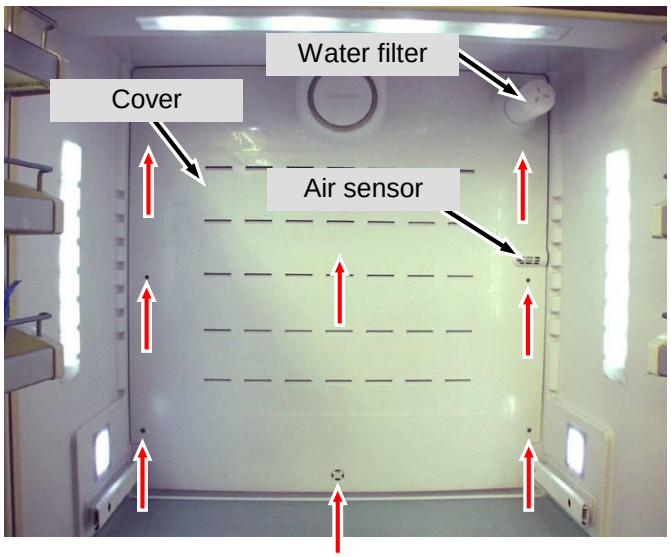


Fig. 5.2.7 / 1

5.2.6 Replace mount for water filter

Mount for water filter:

- The mount is fixed behind the evaporator cover on the appliance rear wall.
- Remove putty on the back and evenly cut water hoses approx. 10cm below the bushing.

Fig. 5.2.8/ 1

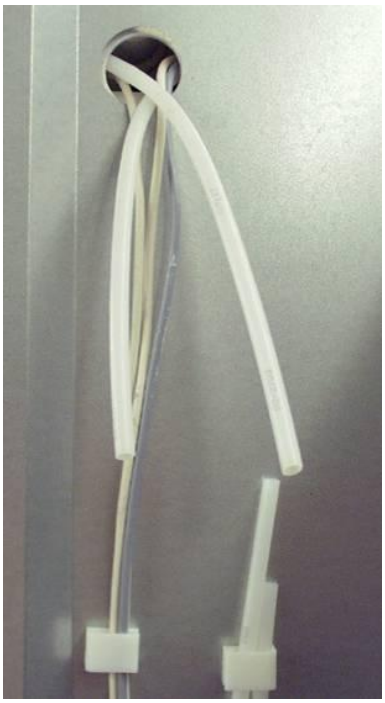


Fig. 5.2.8/ 2

Connecting water hoses:

- Hose ends must be inserted into the connector by 17mm respectively (mark as required).

  ATTENTION: Do not mix up the hose ends. Water must flow through the filter in the specified direction.

- Check for firm seating and attach a circlip at either end (this stops the lock loosening).
- Fill hoses and check for leakage (use test program for IceMaker, allow water to run).

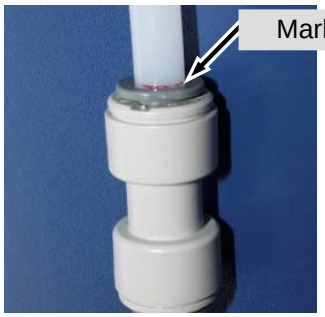


Fig. 5.2.8/ 3

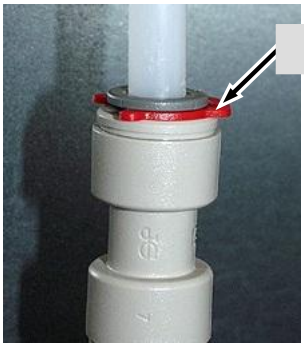


Fig. 5.2.8/ 4

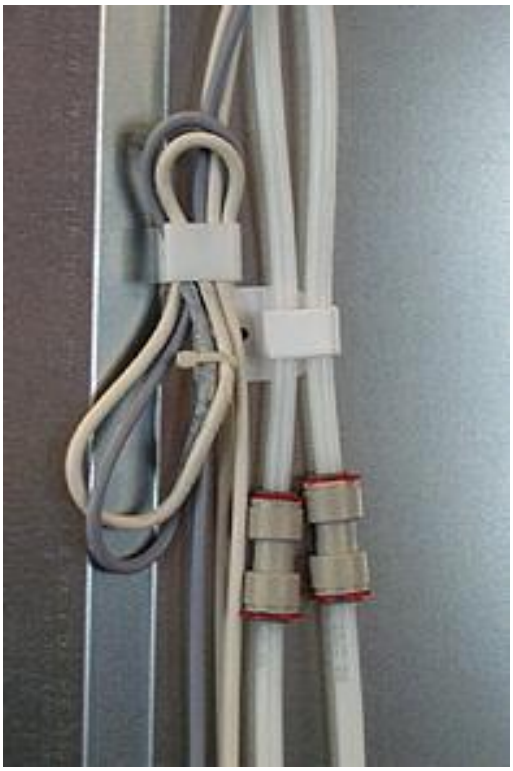


Fig. 5.2.8/ 5

5.2.7 Refrigerator compartment air sensor

Refrigerator compartment air sensor: - Remove styropor cover from the air sensor mount and pull out sensor.
- Pull out the air sensor through the back of the appliance feedthrough and replace using the repair kit. The repair instructions accompany the repair kit.

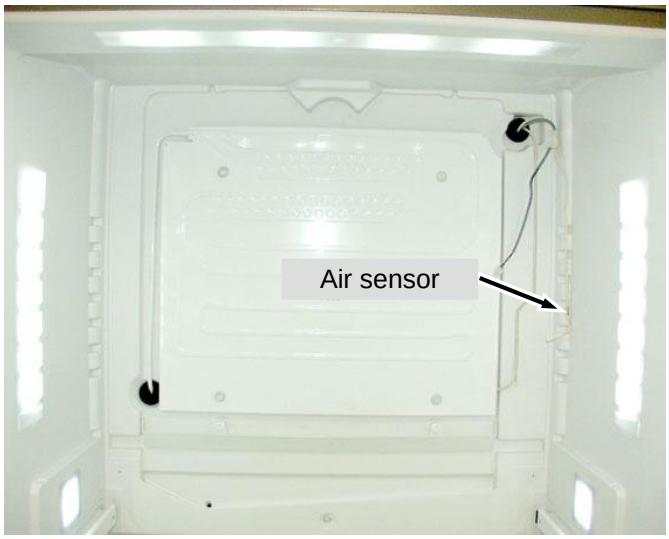


Fig. 5.2.9/ 1

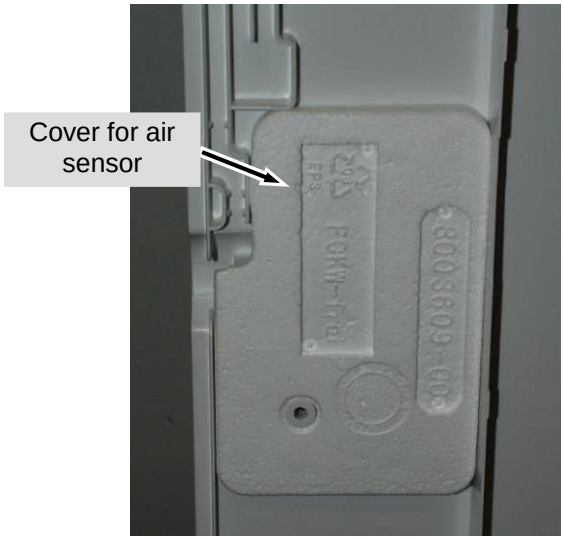


Fig. 5.2.9/ 2

5.2.8 Refrigerator compartment evaporator sensor

Refrigerator compartment evaporator sensor: **-** 4 Remove bayonet screws.
- Swing the evaporator to the left. Pull the sensor out of the mount.
- Pull out the evaporator sensor through the back of the appliance feedthrough and replace using the repair kit. The repair instructions accompany the repair kit.

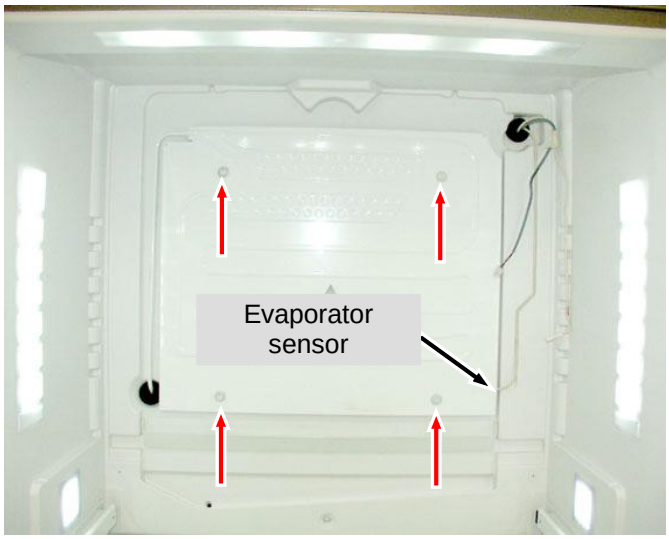


Fig. 5.2.10/ 1

Fig. 5.2.10/ 2

5.2.9 Refrigerator compartment fan

Refrigerator compartment fan: - Unclip the fan together with the absorber ring.
- Pull the fan out of the absorber ring.

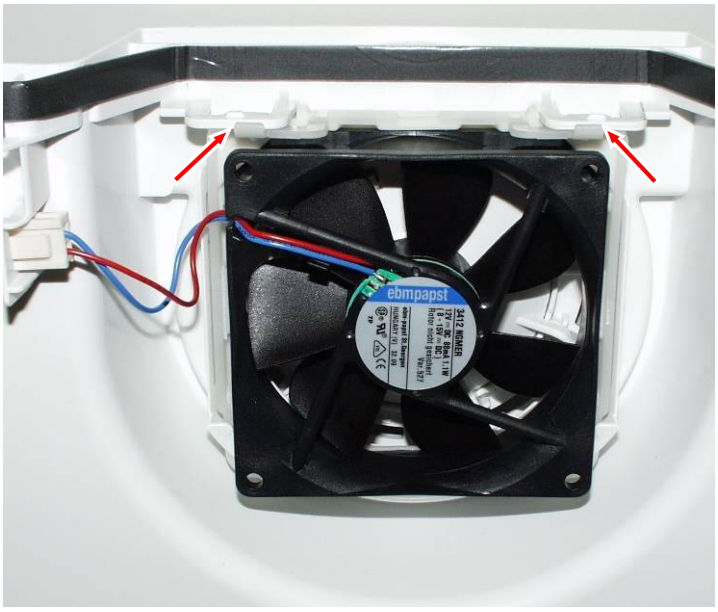


Fig. 5.2.11/ 1

Fig. 5.2.11/ 2

5.2.10 Fitting the cover

Fitting: - Push the retaining lug of the cover into the grooves of the compartment liner.
- Screw on cover.

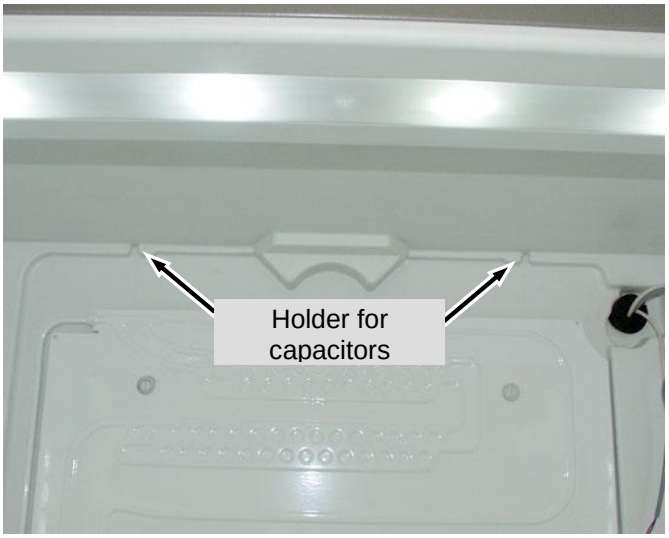


Fig. 5.2.12/ 1

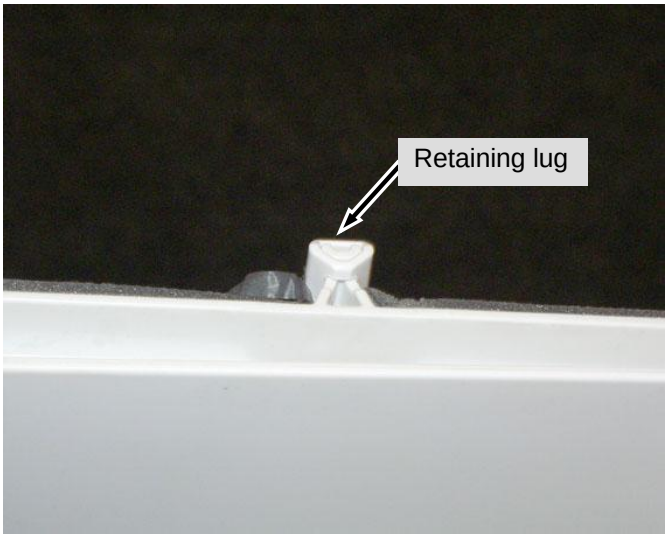


Fig. 5.2.12/ 2

5.3 Freezer compartment

5.3.1 Dismantling the freezer compartment drawers

Remove insert:

- Lift insert by approx. 2 cm at the front and then push back to unclip it at the rear.
- Lift the insert up and out of the drawer.

Fig. 5.3.1/ 1

Remove drawer:

- Remove fastening screws on the left and right rails.
- Unclip rails from the rear locking pins and remove the drawer.
- Please note position of the adjusting aids at the front (important for assembly).

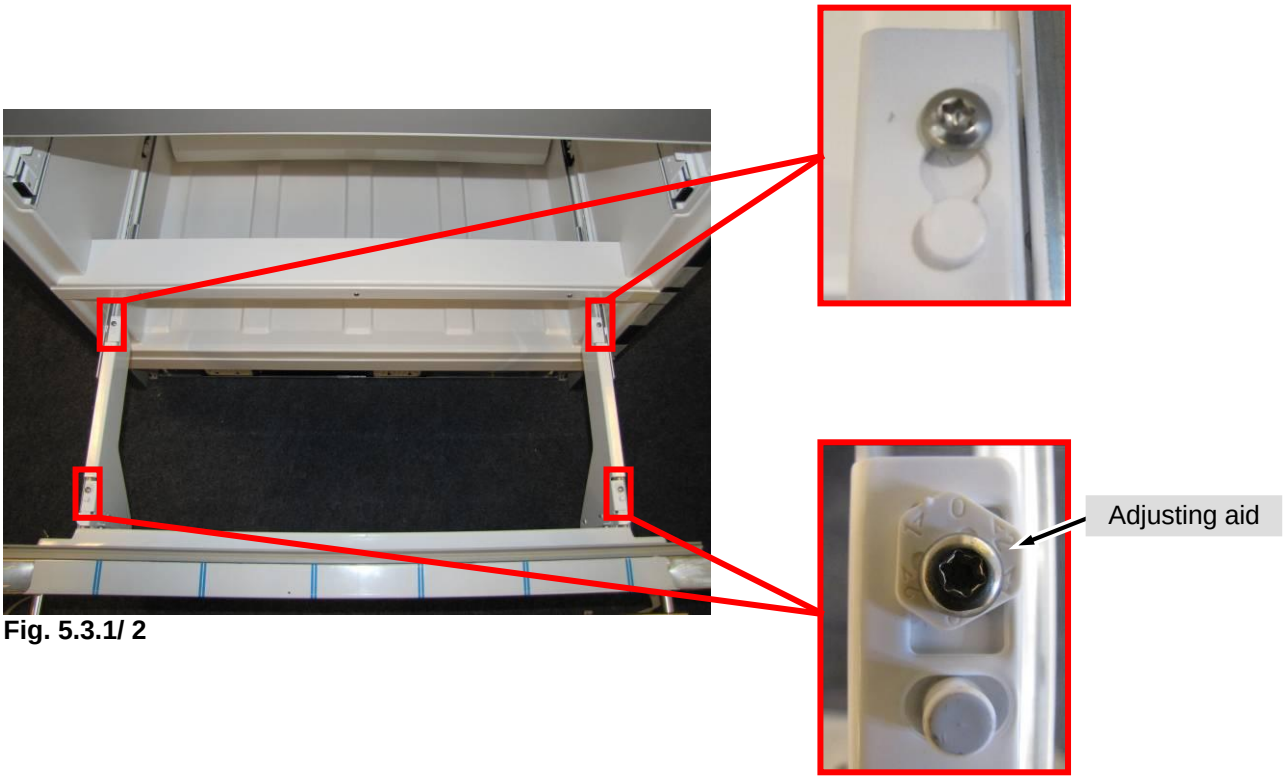


Fig. 5.3.1/ 2

5.3.2 Freezer compartment evaporator cover

IceMaker:
- Press up the locating lugs of the IceMaker and draw the IceMaker forwards.
- Disconnect cables.

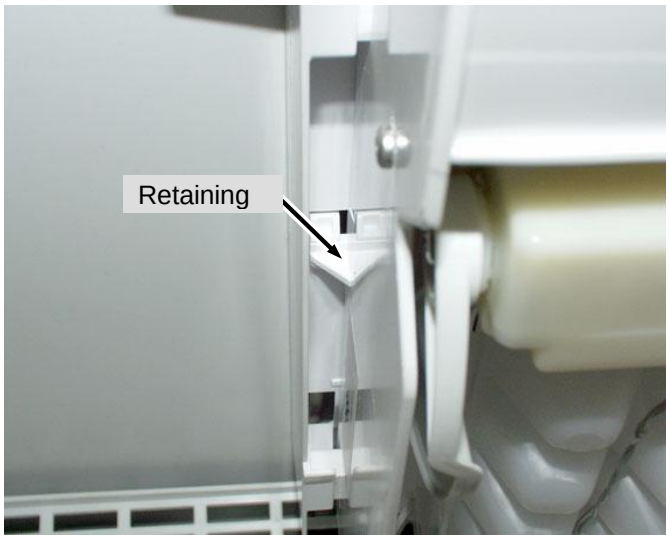


Fig. 5.3.2/ 1

Fig. 5.3.2/ 2

Cover:
- Unclip the air sensor and remove the four screws.
- Draw the cover forwards and swing it out at the bottom.
- Disconnect the connecting cable to the reed contacts and remove the cover

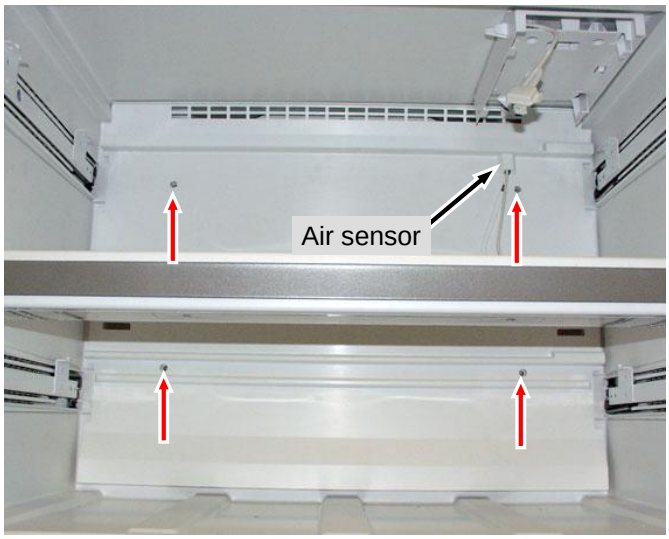


Fig. 5.3.2/ 3

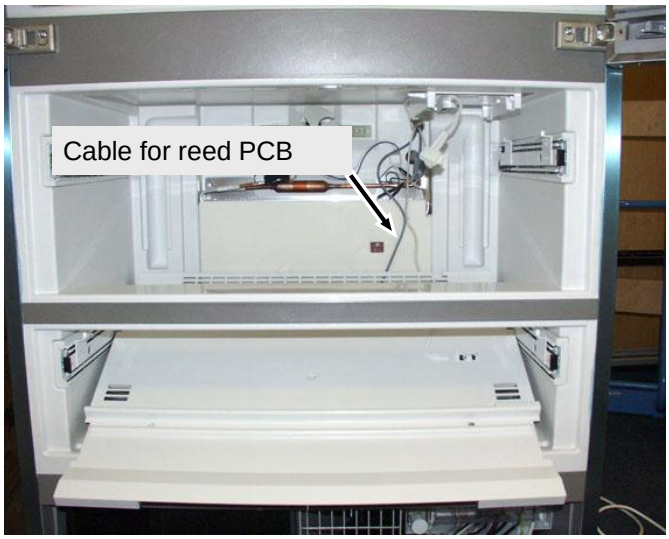


Fig. 5.3.2/ 4

5.3.3 Freezer compartment air sensor

Air sensor: - Pull the air sensor out rearwardly through the housing feedthrough and replace it by the repair kit. The repair instructions accompany the repair kit.

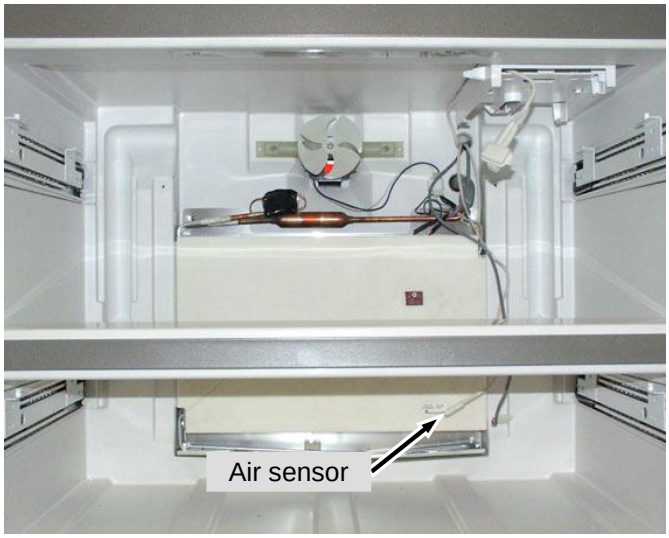


Fig. 5.3.3/ 1

5.3.4 Temperature limiter

Temperature limiter:
- Unscrew the temperature limiter.
- Detach the sheeting.
- Lift out the temperature limiter.
- The new temperature limiter is put together using the repair kit.

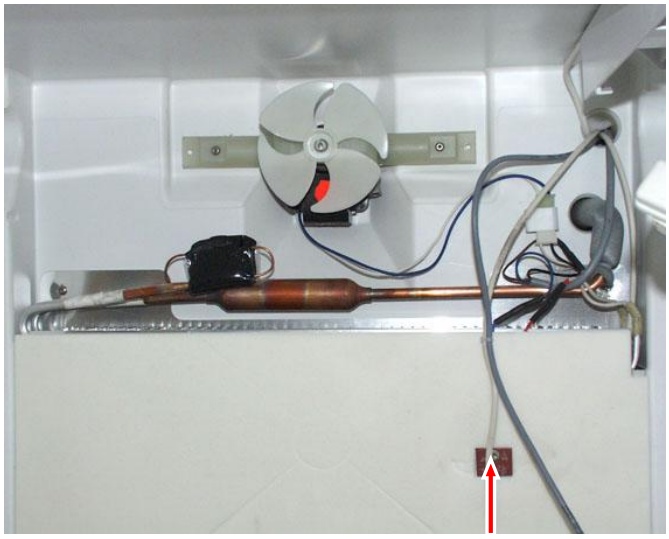


Fig. 5.3.4 / 1

5.3.5 Evaporator sensor, freezer compartment

Evaporator sensor: Raise evaporator module and swing it out in a forward direction.
- Make incisions in the sheeting at the marked locations (1st and 2nd step, see **Fig. 5.3.5/ 1** and **Fig. 5.3.5/ 2**).
- Bend open the retaining lugs of the cover plate and remove it.
- Draw the evaporator sensor to the left, out of the lamellar evaporator.
- Pull the sensor out through the back of the appliance feedthrough and replace using the repair kit. The repair instructions accompany the repair kit.

Defrost heater: Is clipped into the evaporator fins. Can be replaced if defective.

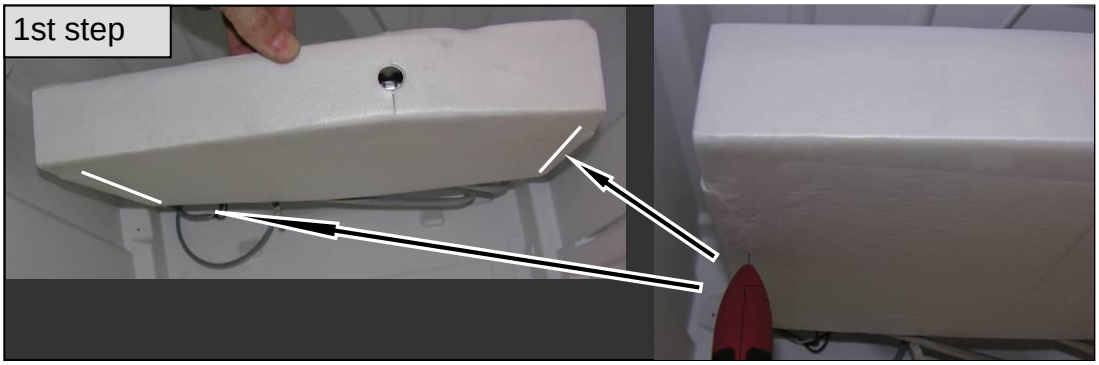


Fig. 5.3.5/ 1 Making an incision in the sheeting

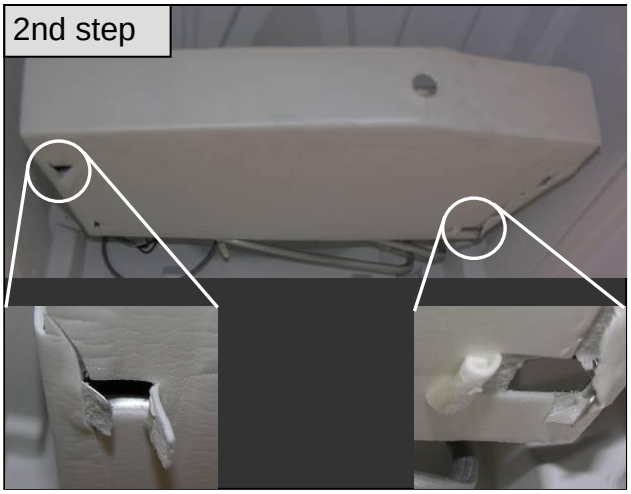


Fig. 5.3.5/ 2 Cutting open the evaporator cover

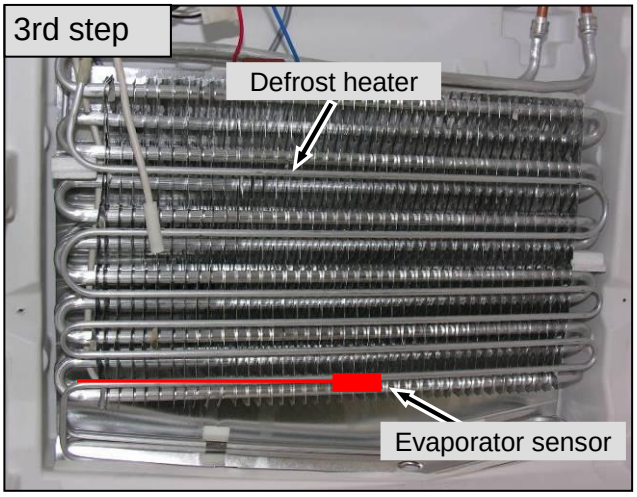


Fig. 5.3.5/ 3 Lamellar evaporator

5.3.6 Freezer compartment fan

Freezer compartment fan:
- Disconnect fan cable.
- Remove the fastening screws and detach the fan together with the mount.
- Remove the blades and strip off the rubber rings.
- Disengage the locating lugs and remove the bracket of the mount.

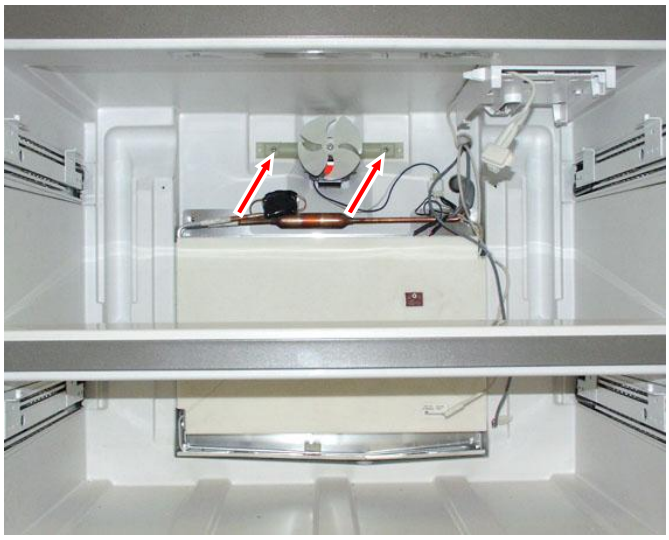


Fig. 5.3.6/ 1

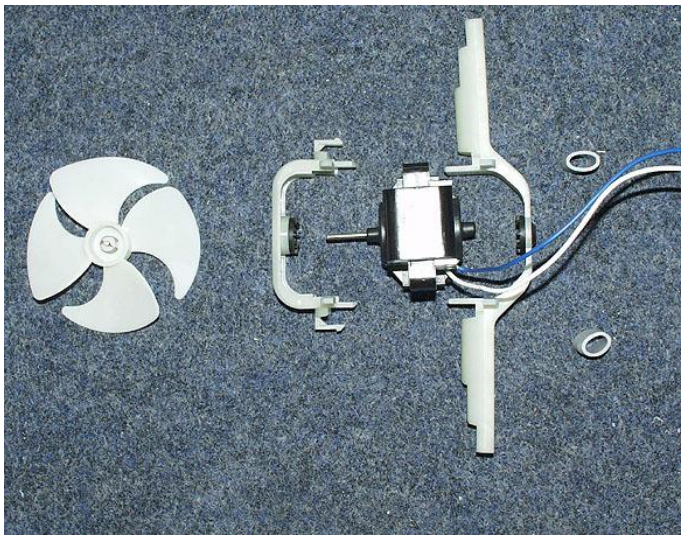


Fig. 5.3.6/ 2

5.3.7 Freezer compartment reed contact

Reed PCB:

- Remove the polystyrene strip on the back of the freezer compartment evaporator cover.
- Remove the reed PCB from the mount and disconnect it.

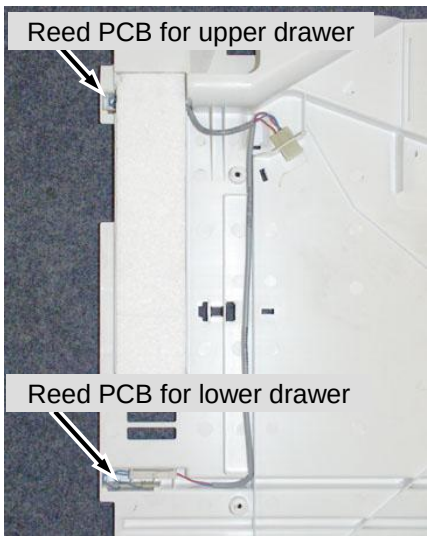


Fig. 5.3.7/ 1

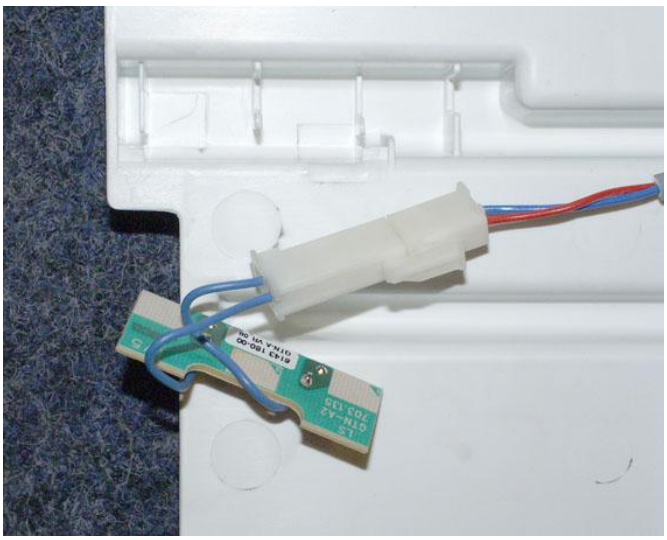


Fig. 5.3.7/ 2

Position of the reed contacts: **-** On the evaporator cover.

Position of the magnets: - In back right corner of the drawers.

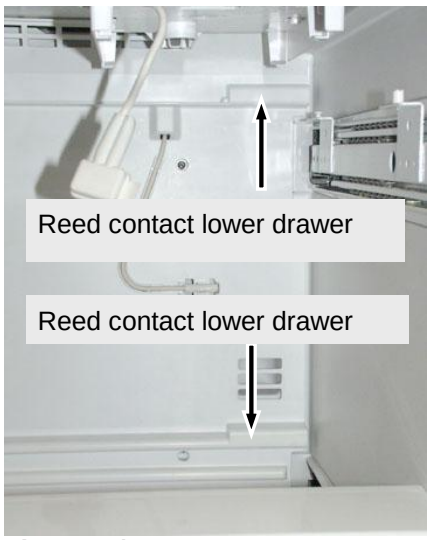


Fig. 5.3.7/ 3

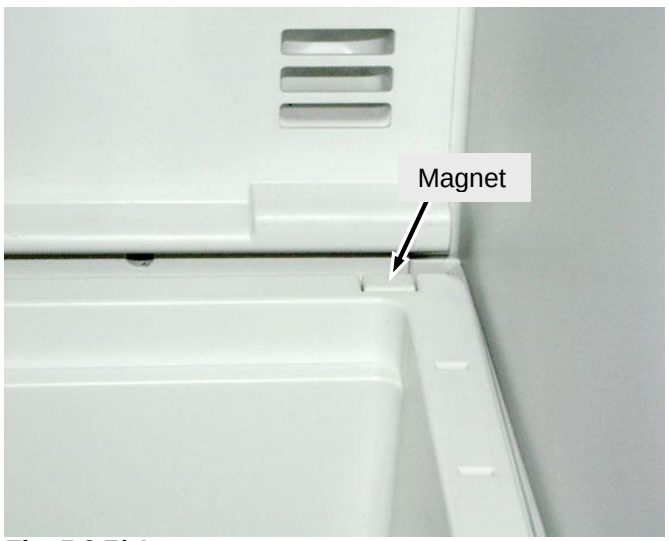


Fig. 5.3.7/ 4

5.3.8 Fitting the cover

Cover:

- Air ducts must be free from cables.
- Therefore stow away the air sensor cables and reed PCB cables in the space above the evaporator.
- The cover must rest completely against the compartment liner so that proper air circulation is maintained.
- Please ensure that the cover also rests on the compartment liner ceiling so that the bottom drawer can slide into end position on closing.

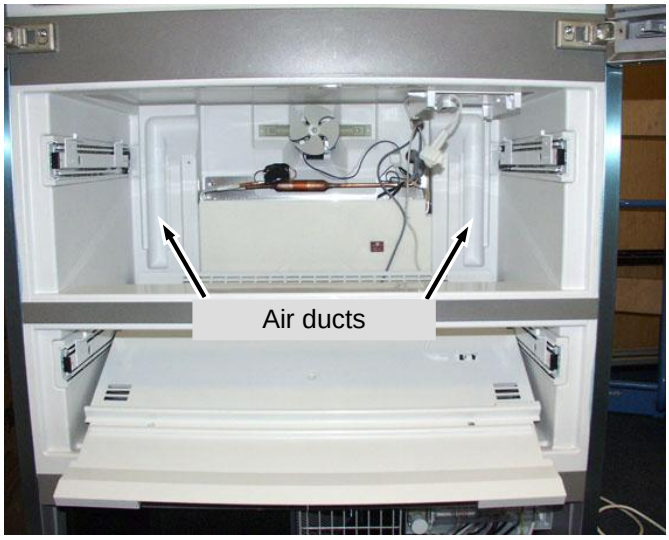


Fig. 5.3.8/ 1

Fig. 5.3.8/ 2

Fig. 5.3.8/ 3

Fig. 5.3.8/ 4

6.0 Technical data

6.1 General

Sensor values:

Temperature [°C]	Resistance value [kOhm]
+35	3.1
+30	3.8
+25	4.7
+20	5.9
+15	7.4
+10	9.4
+5	11.9
0	15.4
-5	19.9
-10	26.0
-15	34.3
-20	45.7
-25	61.4
-30	83.4
-35	114.5

6.2 Refrigerator compartment

Interior light	Light column:	
	Wattage:	2 x 2.86 W
	voltage:	approx. 13 V/DC , with LED light connected.
	4 LEDs:	
	Wattage:	4 x 1.1 W
	voltage:	approx. 18 to 20 V/DC , with LED light connected.
	Vegetable drawers:	
	Wattage:	2 x 2.86 W
	voltage:	approx. 18 to 20 V/DC , with LED light connected.
	In total:	13,4 W
Fan:	Wattage:	1,1 W
	Voltage:	11 V/DC
Heating for hinge housing:	Wattage:	approx. 12 W
	voltage:	24 V/DC

6.3 Freezer compartment

Interior light	2 strips with 2 LEDs each:	
	Wattage:	4 x approx. 1.1 W
	Voltage:	approx. 18-20 V/DC, with connected LED lighting.
	In total:	4.4 W
Fan:	Wattage:	4.5 W
	Voltage:	230 V/AC
Defrost heater:	Wattage:	194 W
	Voltage:	230 V/AC
Temperature fuse:	Tripping temperature:	+84°C (is defective after it has been tripped and has to be replaced)

7.0 Customer menu

Customer menu activation: Press "**SuperFrost"** for approx. 5 seconds.

All the functions that can be set and activated by the customer (e.g. display brightness, child lock,...) are described in the operating instructions.

Only the **permanent activation of heating for the bottom hinge housing is no longer described in the operating manual**:

If, due to major condensate formation in the hinge housing, the heating should be permanently activated, state HI must be assigned a new heating activation period (HH):

- Press the SuperFrost symbol for 5 seconds -> customer menu open
- Press the Down symbol for the freezer compartment until H appears in the display
- Press SuperFrost symbol -> HA is indicated in the display
- Press the Up symbol for 4 seconds -> HH is indicated in the display
- Press SuperFrost symbol -> H is indicated in the display
- Press SuperFrost symbol -> HA is indicated in the display
- Press the Up symbol for the freezer compartment until HI appears in the display
- Press SuperFrost symbol -> H is indicated in the display
- Press On/Off symbol for the freezer compartment -> customer menu closed

	Until now	New	Activation period for HI
HO	Permanently OFF	Permanently OFF	
HA	20" ON / 40" OFF	20" ON / 40" OFF	
HI	Permanently ON	20" ON / 40" OFF	HL (as standard)
		Permanently ON	HH

The original heater activation period (HL) can be re-assigned to the HI state at a later stage (e.g. when the ambient humidity has returned to a lower level):

- Press the SuperFrost symbol for 5 seconds -> customer menu open
- Press the Down symbol for the freezer compartment until H appears in the display
- Press SuperFrost symbol drücken -> HI is indicated in the display
- Press the Down symbol for 4 seconds -> HL is indicated in the display
- Press SuperFrost symbol -> H is indicated in the display
- Press the ON/OFF symbol for the freezer compartment -> customer menu closed

8.0 Service menu

The service menu may be used by service technicians only.

Activation of service menu: Press "**Up**" + "**ON/OFF**" simultaneously for about 5 seconds (freezer compartment buttons)

Once the **service menu is activated, "MENU"** flashes in the display**.**

8.1 Manual defrosting

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	H flashes	Service menu active, Manual defrosting selected
2	H flashes	Press "SF" once	H I static	**Manual defrosting ON** selected
3	H I static	Press "SF" once	A static	**Manual defrosting ON** activated
Manual defrosting is ended by: - Switching appliance OFF/ON - Automatic after the defrost parameters are reached				

8.2 Demo mode

Step	Display	Operation	Display following operation	Testing option / Info
Start service menu -- Demo mode ON --				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	flashes	Service menu active
2	flashes	Press "Up" once	flashes	**Demo mode** selected
3	flashes	Press "SF" once	static	**Demo mode ON** selected
4	static	Press "SF" once	Set value and "**Demo**"	**Demo mode ON**
Start service menu --Demo mode OFF--				SF = SuperFrost
1	Actual value and "**Demo**"	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	flashes and "**Demo**"	Service menu active
2	flashes	Press "Up" once	flashes and "**Demo**"	**Demo mode** selected
3	flashes and "**Demo**"	Press "SF" once	static and "**Demo**"	**Demo mode OFF** selected
4	static and "**Demo**"	Press "SF" once	Actual value	**Demo mode OFF**

The text "**Demo**" in the display informs of the **activated demo mode**.
Demo mode can be deactivated only via service menu, not by OFF/ON or disconnection from the supply.
Operation switches to the mode wanted, demo mode or normal mode, as soon as "SuperFrost" has been actuated.

8.3 Panel test

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	flashes	Service menu active
Panel test -- test of sensor buttons, display elements, door sensor and beep --				
2	flashes	Press "Up" twice	flashes	Panel test selected
3	flashes	Press "SF" once	static	Panel test activated
4	static	Press "SF" once	All symbols/segments	All symbols/segments
5	All symbols/segments	Doors closed/open and press all buttons one after the other (each operation is confirmed by a beep)	- Beep for 2 sec. - appliance switches OFF	After the last button has been pressed a beep sounds for 2 seconds, only if the test has been successful.
End	Panel test cannot be ended in step 2, for example, it has to be performed in full. Should a **button/sensor be defective**, there will be **no 2-second beep** and the **appliance will not switch OFF**. The appliance then has to be unplugged and plugged back in again.			

8.4 Sensor test (display of temperature) and door contact test E-

8.4.1 Refrigerator/freezer compartment E'

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	H flashes	Service menu active
Sensor test and door contact test (sensor values without offset, appliance in control mode)				
2	H flashes	Press "Up" three times	E- flashes	Sensor test mode selected
3	E- flashes	Press "SF" once	E' static	Sensor test mode activated
4	E' static	Press "SF" once	'3 flashes alternately with sensor temperature	**Freezer compartment air sensor**
5	'3 flashes alternately with sensor temperature	Press "Up" once	'4 flashes alternately with sensor temperature	Freezer compartment evaporator sensor
6	'4 flashes alternately with sensor temperature	Press "Up" once	'1 flashes alternately with sensor temperature	**Refrigerator compartment air sensor**
7	'1 flashes alternately with sensor temperature	Press "Up" once	'2 flashes alternately with sensor temperature	**Refrigerator compartment evaporator sensor**
8	'2 flashes alternately with sensor temperature	Press "Up" once	'A flashes alternately with oP or cL	**Refrigerator compartment door contact** (cL=door closed, oP=door open)
9	'A flashes alternately with sensor temperature	Press "Up" once	'b flashes alternately with oP or cL	**Freezer compartment door contact**(cL=door closed, oP=door open)
End	Press "**ON/OFF**" once: Return to level 2 E' . No further points selectable with this appliance. Press "**ON/OFF**" twice: Return to level 1 E- . Points: d , P , E- , L- selectable Press "**ON/OFF**" three times: Return to normal/control mode			

8.4.2 IceMaker

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	H flashes	Service menu active
Sensor test and door contact test (sensor values without offset, appliance in control mode)				
2	H flashes	Press "Up" three times	E- flashes	**Sensor test mode** selected
3	E- flashes	Press "SF" once	E1 static	**Sensor test mode activated**
4	E1 static	Press "Up" once	EC static	**IceMaker selected**
6 → 5	EC static	Press "SF" once	C1 flashes alternately with sensor temperature	**IceMaker air sensor**
5 ← 6	C1 flashes alternately with sensor temperature	Press "Up" once	CA flashes alternately with oP or cL	**Ice-cube drawer door contact** (oP=door open, cL=door closed)
End	Press "**ON/OFF**" once: Return to level 2 EC . No further points selectable with this appliance. Press "**ON/OFF**" twice: Return to level 1 E- . Points: d , P , E- , L selectable Press "**ON/OFF**" three times: Return to normal/control mode			

8.5 Service mode

8.5.1 Refrigerator/freezer compartment

Step	Display	Operation	Display following operation	Testing option / Info	
Service menu start				SF = SuperFrost	
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	flashes	Service menu active	
Service mode -- testing electric loads--					**Power input**
2	flashes	Press "Up" four times	flashes	Service mode selected	
3	flashes	Press "SF" once	static	Service mode activated	
4	static	Press "SF" once	static	**All OFF**	
14→5	static	Press "Up" once	static	**Freezer compartment compressor ON**	---
6	static	Press "Up" once	static	**Refrigerator compartment compressor ON**	---
7	static	Press "Up" once	static	**Freezer compartment fan ON**	4.5 W
8	static	Press "Up" once	static	**Freezer compartment defrost heater ON**	194 W
9	static	Press "Up" once	static	**Refrigerator compartment light ON**	19 W
10	static	Press "Up" once	static	**Refrigerator compartment fan ON**	5.5 W
11	static	Press "Up" once	static	**Freezer compartment light ON**	8.5 W
12	static	Press "Up" once	static	**Condenser fan ON**	4.5 W
13	static	Press "Up" once	static	**Hinge heating ON**	12 watts
5 ←14	static	Press "Up" once	static	**Return to step 5**	
End	Press "**ON/OFF**" once: Return to level 2 . Points: , , , selectable Press "**ON/OFF**" twice: Return to normal/control mode				

8.5.2 IceMaker

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	flashes	Service menu active
Service mode -- testing electric loads--				
2	flashes	Press "Up" four times	flashes	**Service mode** selected
3	flashes	Press "SF" once	static	**Service mode activated**
4	static	Press "Up" once	static	**IceMaker selected**
5	static	Press "SF" once	static	**All OFF**
12 → 6	static	Press "Up" once	flashes alternately with	**All OFF**
7	flashes alternately with	Press "SF" once	flashes alternately with	**- ice cube tray emptied, back to home position** **- 3 sec. solenoid valve ON**
8	flashes alternately with	Press IceMaker ON/OFF button	flashes alternately with	**All OFF**
9	flashes alternately with	Press "Up" once	flashes alternately with	**All OFF**
10	flashes alternately with	Press "SF" once	flashes alternately with →	**- ice cube tray emptied** **- 25 sec. solenoid valve ON** After 25 seconds have elapsed, again flashes alternately with **The drawer must be closed at the time!**
11	flashes alternately with	- Press IceMaker ON/OFF button (→ switch ON) - Close drawer	flashes alternately with	**Ice cube tray returns to home position**
6 ← 12	flash alternately with	Press "Up" once	static	**Return to step 6**
End	Press "**ON/OFF**" once: Return to level 2 : Items: , , selectable Press "**ON/OFF**" twice: Return to normal/control mode			

8.5.3 Solenoid valve

Step	Display	Operation	Display following operation	Testing option / Info
Service menu start				SF = SuperFrost
1	Actual value	Press "**Up**" and "**ON/OFF**" simultaneously for 5 seconds	flashes	Service menu active
Service mode -- testing electric loads--				
2	flashes	Press "Up" four times	flashes	**Service mode** selected
3	flashes	Press "SF" once	static	**Service mode activated**
4	static	Press "Up" once	static	**IceMaker selected**
5	static	Press "Up" once	static	**Solenoid valve selected**
6	static	Press "SF" once		**All OFF**
9 → 7	static	Press "Up" once	flashes alternately with	**All OFF**
8	flashes alternately with	Press "SF" once	flashes alternately with →	**- 10 seconds solenoid valve ON** After the 10 seconds have elapsed, flashes alternately with
7 ← 9	flashes alternately with	Press "Up" once	static	**Return to step 6**
End	Press "**ON/OFF**" once: Return to level 2 : Items: , , selectable Press "**ON/OFF**" twice: Return to normal/control mode			

9.0 Error codes

Error code	Defective component	Emergency mode
F1	Refrigerator compartment air sensor	Compressor 20 minutes ON and 40 minutes OFF.
F2	Refrigerator compartment evaporator sensor	Compressor 20 minutes ON and 40 minutes OFF.
F3	Freezer compartment air sensor	Compressor continuous operation
F4	Freezer compartment evaporator sensor	Compressor continuous operation